

Chapter 5 - The Fundamental Unit of Life

Short Answer Type Questions

1. Why are lysosomes known as 'suicide-bags' of a cell?
2. Do you agree that "A cell is a building unit of an organism". If yes, explain why?
3. Why does the skin of your finger shrink when you wash clothes for a long time?
4. Why is endocytosis found in animals only?
5. A person takes concentrated solution of salt, after sometime, he starts vomiting. What is the phenomenon responsible for such situation? Explain.
6. Name any cell organelle which is non membranous.
7. We eat food composed of all the nutrients like carbohydrates, proteins, fats, vitamins, minerals and water. After digestion, these are absorbed in the form of glucose, aminoacids, fatty acids, glycerol etc.
What mechanisms are involved in absorption of digested food and water?
8. If you are provided with some vegetables to cook. You generally add salt into the vegetables during cooking process. After adding salt, vegetables release water. What mechanism is responsible for this?
9. If cells of onion peel and RBC are separately kept in hypotonic solution, what among the following will take place? Explain the reason for your answer.
 - (a) Both the cells will swell.
 - (b) RBC will burst easily while cells of onion peel will resist the bursting to some extent.
 - (c) a and b both are correct.
 - (d) RBC and onion peel cells will behave similarly.
10. Bacteria do not have chloroplast but some bacteria are photoautotrophic in nature and perform photosynthesis. Which part of bacterial cell performs this?
11. Match the following A and B

(A)	(B)
(a) Smooth endoplasmic reticulum	(i) <i>Amoeba</i>
(b) Lysosome	(ii) Nucleus
(c) Nucleoid	(iii) Bacteria
(d) Food vacuoles	(iv) Detoxification

**(e) Chromatin material
and nucleolus**

(v) Sulcidal bag

Write the name of different plant parts in which chromoplast, chloroplast and leucoplast are present.

12. Name the organelles which show the analogy written as under
 - (a) Transporting channels of the cell—
 - (b) Power house of the cell—
 - (c) Packaging and dispatching unit of the cell—
 - (d) Digestive bag of the cell—
 - (e) Storage sacs of the cell—
 - (f) Kitchen of the cell—
 - (g) Control room of the cell—
13. How is a bacterial cell different from an onion peel cell?
14. How do substances like carbon dioxide (CO₂) and water (H₂O) move in and out of the cell?
15. How does amoeba obtain its food?
16. Name the two organelles in a plant cell that contain their own genetic material and ribosomes.
17. Why are lysosomes also known as "scavengers of the cells"?
18. Which cell organelle controls most of the activities of the cell?
19. Which kind of plastid is more common in
 - (a) roots of the plant
 - (b) leaves of the plant
 - (c) flowers and fruits
20. Why do plant cells possess large sized vacuole?
21. How are chromatin, chromatid and chromosomes related to each other?

22. What are the consequences of the following conditions?

- (a) A cell containing higher water concentration than the surrounding medium
- (b) A cell having low water concentration than the surrounding medium.
- (c) A cell having equal water concentration to its surrounding medium.

Long Answer Type Questions

1. Draw a plant cell and label the parts which

- (a) determines the function and development of the cell
- (b) packages materials coming from the endoplasmic reticulum
- (c) provides resistance to microbes to withstand hypotonic external media without bursting
- (d) is site for many biochemical reactions necessary to sustain life.
- (e) is a fluid contained inside the nucleus

2. Illustrate only a plant cell as seen under electron microscope. How is it different from animal cell?

3. Draw a neat labelled diagram of an animal cell.

4. Draw a well labelled diagram of an eukaryotic nucleus. How is it different from nucleoid?

5. Differentiate between rough and smooth endoplasmic reticulum. How is endoplasmic reticulum important for membrane biogenesis?

6. In brief state what happens when

- (a) dry apricots are left for sometime in pure water and later transferred to sugar solution?
- (b) a Red Blood Cell is kept in concentrated saline solution?
- (c) the Plasma-membrane of a cell breaks down?
- (d) rheo leaves are boiled in water first and then a drop of sugar syrup is put on it?
- (e) golgi apparatus is removed from the cell?

7. Draw a neat diagram of plant cell and label any three parts which differentiate it from animal cell.